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HEWLETT-PACKARD DEVELOPMENT COMPANY
Intellectual Property Administration
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EXAMINER

TORRES, JOSE

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/696,238	Applicant(s) JOUPI ET AL.	
	Examiner Jose M. Torres	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 13-17, 19-27, 30-35 and 37-40 is/are rejected.
- 7) ☒ Claim(s) 9, 12, 18, 28, 29, 36 and 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Comments

1. The Amendments filed on January 16, 2007 have been entered and made of record.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 8, 10, 30, 31, 32, 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. (US 7,068,856) in view of Nalwa (US 5,990,934).

Albertelli et al. teaches a method/computer-readable medium encoded with a program of instructions executable by a machine to perform method steps for determining the angular orientation of an object (Col. 2 lines 54-58 and Col. 5 lines 38-67)) comprising/said method steps including: a computer (FIG. 4, "processor **130**" Col. 6 lines 27-50) for computing a centroid (FIG. 2, "image centroid **35**") based on the assigned values wherein an angle of the centroid (FIG. 2, "orientation angle **55**") with respect to the origin (FIG. 2, "(0,0)") indicates the angular orientation of the object (Col. 3 lines 9-67).

As to claims 1, 30, 31 and 32: Albertelli et al. fails to disclose a plurality of cameras for obtaining a plurality of images of the object and a computer for assigning values to a plurality of positions in a polar plot using data from the images, the polar plot having an origin and being in a plane that is independent of planes of the images, and data from each image being assigned to a corresponding sector of the polar plot.

Nalwa teaches a plurality of cameras for obtaining a plurality of images of the object (FIG. 2, "cameras **52**, **54**, **56** and **58**"); and a computer (FIG. 7, "controller **174**", Col. 4 lines 25-49) for assigning values to a plurality of positions in a polar plot (FIG. 8, "surface of cylindrical section") using data from the images ("output of cameras"), the polar plot having an origin ("virtual optical center") and being in a plane that is independent of planes of the images, and data from each image being assigned to a corresponding sector (FIG. 8, "sectors **200**, **202**, **204** and **206**") of the polar plot (Col. 4 line 64 through Col. 5 line 19).

Therefore, in view of Nalwa, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Albertelli et al.'s method/system by incorporating the method steps and cameras for obtaining a plurality of images of the object and the controller for assigning values to a plurality of positions in a polar plot using data from the images, the polar plot having an origin and data from each image being assigned to a corresponding sector of the polar plot in order to enhance the use of virtual meeting rooms by allowing a viewer to see the meeting room in a more natural format (Col. 1 lines 51-65).

As to claims 2 and 33, Albertelli et al. fails to disclose identifying positions in the polar plot that are uniformly spaced, identifying corresponding pixels in the image for the positions in the polar plot and assigning luminance values for the pixels to the positions in the polar plot.

Nalwa further teaches identifying positions in the polar plot that are uniformly spaced ("collection of columns"), identifying corresponding pixels in the image for the positions in the polar plot ("columns are composed of pixels") and assigning luminance values for the pixels to the positions in the polar plot (Col. 4 line 64 through Col. 5 line 19).

As to claim 8, Albertelli et al. fails to disclose the plurality of images consists of four images taken by each of four cameras and wherein said assigning includes assigning one of the images to each of four quadrants of the polar plot.

Nalwa further teaches the plurality of images consists of four images taken by each of four cameras ("cameras **52**, **54**, **56** and **58**") and wherein said assigning includes assigning one of the images to each of four quadrants of the polar plot ("surface of cylindrical section", Col. 4 line 64 through Col. 5 line 19).

As to claims 10 and 35, Albertelli et al. fails to disclose the polar plot is divided into sectors with an image of the plurality being obtained for each sector and with all sectors of the polar plot being imaged.

Nalwa further teaches the polar plot ("surface of cylindrical section ") is divided into sectors (FIG. 8, "sectors **200**, **202**, **204** and **206**") with an image of the plurality being obtained for each sector and with all sectors of the polar plot being imaged (Col. 4 line 64 through Col. 5 line 19).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli in view of Nalwa as applied to claim 2 above, and further in view of Nielsen et al. (US 2004/0247173). The teachings of Albertelli et al. modified by Nalwa have been discussed above.

Albertelli et al. fails to disclose interpolating for positions in the polar plot that are between pixels.

Nielsen et al. teaches interpolating for positions in the polar plot that are between pixels (Paragraph [0231]).

Therefore, in view of Nielsen et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al. and Nalwa by incorporating the method step of interpolating for positions in the polar plot that are between pixels in order to a two-dimensional image into an omnidirectional video image in an efficient manner (Paragraphs [0226] and [0027]).

5. Claims 4 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa as applied to claims 1 and 32 above, and further in view

Art Unit: 2624

of Dorbie (US 6,369,814). The teachings of Albertelli et al. modified by Nalwa have been discussed above.

As to claims 4 and 34, Albertelli et al. modified by Nalwa fails to disclose a non-linear mapping of pixel position to polar position.

Dorbie et al. teaches non-linear mapping of pixel position to polar position (Col. 7 lines 35-67)

Therefore, in view of Dorbie et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al. and Nalwa by incorporating the method step of non-linear mapping of pixel position to the polar positions as taught by Nalwa in order to provide distortion correction for the image (Col. 7 lines 35-67).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa as applied to claim 1 above, and further in view of Chen (US 2004/0213460). The teachings of Albetelli et al. modified by Nalwa have been discussed above.

As to claim 5, Albertelli et al. modified by Nalwa fails to disclose determining a width of the object by scanning each image.

Chen '460 teaches determining a width (FIG. 5, "body measurement H₁e 502") of the object ("face") by scanning ("raster scan") each image (Paragraphs [0034] and [0086]).

Therefore, in view of Chen '460, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al. and Nalwa by incorporating the method step of raster scanning each image to determine the body measurement of the face in order to use an edit feature to correctly contour the body outline of the face very close to the edges (Paragraph [0087]).

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa as applied to claim 1 above, and further in view of Bellm et al. (US 6,710,867). The teachings of Albertelli et al. modified by Nalwa have been discussed above.

As to claims 6 and 7, Albertelli et al. modified by Nalwa fails to disclose calibrating the cameras prior to obtaining the images from the cameras, wherein said calibrating comprises obtaining images of a cylindrical object uniform in color.

Bellm et al. teaches calibrating the cameras (FIG. 1, "CCD camera 8") prior to obtaining the images from the cameras (Col. 4 lines 53-67), wherein said calibrating comprises obtaining images of a cylindrical object (FIG. 1, "calibration mark 16") uniform in color ("blackened surface", Col. 4 lines 53-67).

Therefore, in view of Bellm et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al. and Nalwa by incorporating the method steps of calibrating the cameras prior to obtaining images from the cameras taught by Nalwa, and wherein said calibrating comprises

Art Unit: 2624

obtaining images of a cylindrical object with a blackened surface in order to improve the contrast for the gray-scale values (Col. 4 lines 35-57).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa as applied to claim 1 above, and further in view of Leis et al. (US 5,828,770). The teachings of Albertelli et al. modified by Nalwa have been discussed above.

As to claim 11, Albertelli et al. modified by Nalwa fails to disclose said images are obtained from near-infrared light from the object.

Leis et al. teaches said images are obtained from near-infrared light ("infrared energy") from the object (FIG. 1, "object 12", Col 3 lines 31-55 and Col. 4 lines 39-59).

Therefore, in view of Leis et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al. and Nalwa by incorporating the method step of the images are obtained from infrared energy from the object in order to the spatial position and angular orientation of an object using six degrees of freedom (Col. 3 lines 31-55).

9. Claims 13, 14, 19, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa as applied to claims 1 and 32 above, and further in view of Smith et al. (US 6,914,622). The teachings of Albertelli et al. modified by Nalwa have been discussed above.

As to claims 13, 14, 19, 37 and 38, Albertelli et al. modified by Nalwa fails to disclose the object is a person's head, directing the person's voice at a remote location according to the angular orientation of the person's head and displaying images of a remote location for the person.

Smith et al. teaches the object is a person's head ("shown in video monitor **40** of FIG. 1", Col. 3 lines 42-65), directing the person's voice ("dynamic speaker system **60**") at a remote location according to the angular orientation of the person's head (FIGs. 6a-c, Col. 5 lines 27-49), and displaying images (FIG. 10, "video monitor **124**") of a remote location for the person ("displaying the RTU incoming video signal (RTUIVS)", Col. 7 lines 4-15)

Therefore, in view of Smith et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al. and Nalwa by incorporating the method steps of directing the person's voice at a remote location according to the angular orientation of the object, the object being a person's head, and displaying images of a remote location for the person in order to give the impression that the remote conferee is turning his head to look at the person speaking (Abstract), and to provide feedback to the remote conferee by means of a graphics overlay unit (Col. 7 lines 4-15).

10. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa further in view of Smith et al. as applied to claim 13

Art Unit: 2624

above, and further in view of Chen et al. (US 6,792,134). The teachings of Albertelli et al. modified by Nalwa and Smith et al. have been discussed above.

As to claim 15, Albertelli et al. modified by Nalwa and Smith et al. fails to disclose estimating a vertical position of the person's eyes and obtaining luminance values of the images at or below the level of the person's eyes and scanning the images to locate the top of the person's head and measuring a distance down from the top of the person's head.

Chen '134 teaches estimating a vertical position of the person's eyes ("eye position", Col. 8 lines 11-27) and obtaining luminance values of the images at or below the level of the person's eyes ("Iris Color Pixel Detection Step", Col. 4 line 60 through Col. 5 line 22) and scanning the images to locate the top of the person's head (FIG. 3, "Oval_top 300") and measuring a distance ("geometric properties") down from the top of the person's head (Col. 4 lines 31-59).

Therefore, in view of Chen et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made modify Albertelli et al., Nalwa and Smith by incorporating the method steps of estimating a vertical position of the person's eyes, obtaining luminance values of the images at the level of the person's eyes and scanning the images to locate the top of the person's head and measuring a distance down from the top of the person's head in order to locate human eyes in a digital image with greater accuracy and efficiency (Col. 1 lines 58-59).

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa, Smith et al. and Chen et al. '134 as applied to claim 15 above, and further in view of Fay (US 6,922,494). The teachings of Albertelli et al. modified by Nalwa, Smith et al. and Chen et al. '134 have been discussed above.

As to claim 17, Albertelli et al. modified by Nalwa, Smith et al. and Chen et al. '134 fails to disclose said estimating comprises scaling the images.

Fay teaches said estimating comprises scaling the images ("image manipulation", Col. 5 lines 12-44)

Therefore, in view of Fay, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al., Nalwa, Smith et al., and Chen et al. '134 by incorporating the automated image scaling system to scale the images in order to determine image characteristics which can be used to determine skin tone for cosmetic applications, and/or forensic identification among others (Col. 5 lines 26-44).

12. Claims 20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa further in view of Smith et al. as applied to claim 13 above, and further in view of Sevigny (US 7,084,879). The teachings of Albertelli et al. modified by Nalwa and Smith et al. have been discussed above.

As to claims 20, 22 and 23, Albertelli et al. modified by Nalwa and Smith et al. fails to disclose said images are formed by performing difference keying, said performing difference keying includes subtracting a baseline image of an apparatus

from an image obtained with the person's head being located within the apparatus, and the apparatus comprises projections screens that substantially surround the person.

Sevigny teaches said images are formed by performing difference keying ("difference-keying", Col. 12 lines 36-51), said performing difference keying includes subtracting a baseline image of an apparatus from an image obtained with the person's (FIG. 1, "analyst 116") head being located within the apparatus (Col 15 line 64 through Col. 16 line 26), and the apparatus comprises projections screens (FIG. 1, "bluescreen 117") that substantially surround the person ("blue-saturated surroundings" Col. 9 lines 26-51).

Therefore, in view of Sevigny, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to further modify Albertelli et al., Nalwa and Smith et al. by incorporating the method steps of forming the images by performing difference keying, which includes subtracting said images are formed by performing difference keying, said performing difference keying includes subtracting a baseline image of an apparatus from an image obtained with the person's head being located within the apparatus, and the apparatus comprises projections screens that substantially surround the person in order to generate a clip of foreground images frames (Col. 9 lines 26-51) and to create a transparency mask, which contains an image of an user without a background and an image of an user with a foreground (Col. 15 line 64 through Col. 16 line 26).

Art Unit: 2624

13. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa further in view of Smith et al. and Sevigny as applied to claim 20 above, and further in view of Pavlidis et al. (US 6,370,260). The teachings of Albertelli et al. modified by Nalwa, Smith et al. and Sevigny have been discussed above.

As to claim 21, Albertelli et al. modified by Nalwa, Smith et al. and Sevigny et al. fails to disclose said images are obtained from near-infrared light from the person's head.

Pavlidis et al. teaches said images (FIG. 1, "image output 15") are obtained from near-infrared light from the person's head (Col. 3 lines 19-35 and Col. 4 lines 31-63)

Therefore, in view of Pavlidis et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al., Nalwa, Smith et al, and Sevigny by incorporating the method step of obtaining the images from near-infrared light from the person's head in order to decrease the noise level during poor environmental conditions and have consistent qualities within the spectral range (Col. 6 lines 29-50).

14. Claims 24-26, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Nalwa as applied to claims 1 and 32 above, and further in view of Weng et al. (US 5,588,435). The teachings of Albertelli et al. modified by Nalwa have been discussed above.

As to claims 24-26, 39 and 40, Albertelli et al. modified by Nalwa fails to disclose the values assigned to the polar plot are luminance values obtained from a band around

Art Unit: 2624

the object that is one/multiple pixel/s wide, and the luminance values assigned to the polar plot represent a vertical average.

Weng et al. teaches the values assigned to the polar plot (FIG. 3) are luminance values ("brightness") obtained from a band around the object that is one/multiple pixel/s wide (FIG. 4, "when m or n = 1", Col. 4 lines 4-29 and Col. 9 lines 8-60), and the luminance values assigned to the polar plot represent a vertical average ("Spatial Filtering", Col. 20 lines 55-67).

Therefore, in view of Weng et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al. and Nalwa by incorporating the method step of assigning luminance values to the polar plot from a band around the object that is one/multiple pixel/s wide, and use a filtering operation corresponding in assigning an average to each pixel location in vertical direction in order to increase or decrease the resolution in a polar representation (Col. 9 lines 35-48) and further attenuate noise that lies away from the vertical line (Col. 20 lines 55-67).

15. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli in view of Nalwa and Weng et al. as applied to claim 25 above, and further in view of Klingensmith et al. (US 6,381,350). The teachings of Albertelli et al. modified by Nalwa and Weng et al. have been discussed above.

As to claim 27, Albertelli et al. modified by Nalwa and Weng et al. fails to disclose performing bi-linear interpolation for position in the polar plot that are between pixels.

Klingensmith et al. teaches performing bi-linear interpolation for positions in the polar plot that are between pixels ("bi-linear interpolation of neighboring pixels", Col. 4 lines 12-18).

Therefore, in view Klingensmith et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al., Nalwa and Weng et al. by incorporating the method step of a bi-linear interpolation for polar position between neighboring pixels in order to easily implement an image analysis system between two coordinate systems (Col. 4 lines 12-18).

Allowable Subject Matter

16. Claims 9, 12, 18, 28, 29, 36 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art made of record fails to teach the plurality of images consists of three images taken by each of three cameras and wherein said assigning includes assigning one of the images to each of three 120 degree intervals of the polar plot, determining the location of the object in the field of view of each of a plurality of cameras and when the object is not in the center of the field of view, said assigning is corrected according to its distance from the center, performing a 180 degree correction of angular orientation of the person's head and the values assigned to the polar plot represent vertical luminance variance or vertical frequency content.

Response to Amendment

Objections to the Drawings

18. Figure 3 has been amended to include reference character 202, and has been properly labeled "3/6". Therefore, the objection has been removed.

Objections to the Specification

19. Proper antecedent basis for the claim limitation "said scaling comprises scaling the images" in claim 17 lines 1-2, has been found on Paragraph 57 of the Specification. Therefore, the objection has been removed.

Claim 30 and Paragraph 30 has been amended to include a "program storage device readable by a machine" as to correct the proper antecedent basis for the claim limitation. Therefore, the objection has been removed.

Claim Rejections under 35 U.S.C. § 101

20. Claim 30 has been amended to recite "A computer-readable medium encoded with a program of instructions executable by a machine", as to be directed toward statutory subject matter. Therefore, the rejection has been removed.

Claim Rejections under 35 U.S.C. § 112

21. As to claim 14, applicant alleges that the movement of the speaker/s may be moved in a direction corresponding to the angular orientation of the person's head,

Art Unit: 2624

which is supported by Paragraph 28 of the specification. Examiner acknowledges this description as being the claimed feature. Therefore, the rejection has been removed.

Claim 24 has been amended to recite the claim limitation "luminance values" with proper antecedent basis. Therefore, the rejection has been removed.

Claim Rejections under 35 U.S.C. § 103

22. Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hillis et al. disclose a Method and Apparatus Maintaining Eye Contact in Video Delivery Systems Using Video Morphing, Fong et al. disclose a Method and Apparatus for Enabling a Videoconferencing Participant to Appear Focused on Camera to Corresponding Users, Hogan et al. disclose a Method and Apparatus for a Video Conference User Interface, and Hilding disclose a Voice-following Video System.

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose M. Torres whose telephone number is 571-270-1356. The examiner can normally be reached on Monday thru Friday: 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/696,238

Page 19

Art Unit: 2624

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMT

03/27/2007

JINGGE WU
SUPERVISORY PATENT EXAMINER

A large, stylized handwritten signature in black ink, likely belonging to Jingge Wu, is written over the printed name and title.